Appl. No. 10/065,665
Amdt. dated March 29, 2006
Reply to Office action of December 29, 2005

Amendments to the Specification:

Please amend paragraph [0025] as below:

[0025] Please refer to Fig.4, which is a schematic diagram of a second operational amplifier circuit 70 according to the present invention. The second operational amplifier circuit 70 has a plurality of operational amplifiers 72, 73, 74, and 75 to function as output buffers, and a plurality of ~~switchs~~ switches S1, S2 related to the operational amplifiers 72, 73, 74, and 75. Please note that only four operational amplifiers are drawn in Fig.4 for simplicity, and the operational amplifiers 72, 73, 74, and 75 and switches S1, and S2 are used to drive corresponding pixels through data lines DL1, DL2, DL3, and DL4. The operation of the second operational amplifier circuit 70 is described as follows. In the beginning, each switch S1 is first turned on to make the operational amplifiers 72, 73, 74, and 75 electrically connected to corresponding data lines DL1, DL2, DL3, and DL4. As mentioned before, each operational amplifier 72, 73, 74, and 75 has a unique offset respectively affecting the output voltage to deviate from the input voltage. In other words, if the pixels with regard to the operational amplifiers 72, and 73 are prepared to be driven by the same input voltage level, for instance V1, the voltage levels of the data lines DL1, and DL2 are different owing to the respective offsets corresponding to the operational amplifiers 72, and 73. Then, all the switches S1 related to the operational amplifiers 72, 73, 74, and 75 are turned off simultaneously. Next, if the operational amplifiers 72, and 73 prepare to drive corresponding pixels toward the same gray level through data lines DL1, and DL2, the switch S2 related to the operational amplifiers 72, and 73 is then turned on by a detecting circuit 71. That is, the detecting circuit 71 controls an on/off status of each switch S_2 according to digital or analog driving data with regard to two pixels coupled to the switch S_2. Therefore, the voltage levels of the data lines DL1, and DL2 will quickly approach an average voltage from these two voltage levels. That is, the original offsets are averaged to generate the average voltage for the data lines DL1, and

DL2. Similarly, if the operational amplifiers 73, and 74 prepare to drive corresponding pixels toward the same gray level through data lines DL2, and DL3, the switch S2 related to the operational amplifiers 73, and 74 is then turned on as well. Therefore, any adjacent pixels driven by the same input voltage will finally have the same gray level with the help of switch S2. To sum up, voltage at each data line DL1, DL2, DL3, or DL4 is first driven by a corresponding operational amplifier 72, 73, 74, or 75 after the switch S1 related to each operational amplifier 72, 73, 74, or 75 is turned on. Then, each switch S1 is turned off. In addition, the switch S2 is turned on when related adjacent pixels related to the switch S2 are prepared to have the same gray level. Finally, the voltage deviation between the adjacent data lines is eliminated by averaging the offsets generated by the corresponding operational amplifiers through the switch S2. In the preferred embodiment, the second operational amplifier circuit 70 is applied on a LCD panel driven according to a line inversion method. Because the pixels positioned in the same row will have the same polarity according to the line inversion method, the switch S2 is capable of averaging voltages with the same polarity at adjacent data lines such as data lines DL1, and DL2. In addition, the different offsets are not averaged through the voltage selection module 56 shown in Fig.3 but are averaged through the related switch S2. Therefore, any voltage divider circuit that can provide the operational amplifier circuit 70 with different voltage levels is suitable for the first driving circuit 16 in the preferred embodiment.

Please amend paragraph [0026] as below:

[0026] Please refer to Fig.5, which is a schematic diagram of a third operational amplifier circuit 80 according to the present invention. The third operational amplifier circuit 80 is similar to the second operational amplifier circuit 70. Only the arrangement of the switches S1, and S2 is different. As shown in Fig.5, there is a switch S2 electrically connected to the operational amplifiers 72, 74, and another switch S2 is electrically connected to the operational amplifiers 73, 75. That is, the adjacent data lines such as

DL1, and DL2 are not connected through the switch S2. When pixels are driven by a dot inversion method, a two dot line inversion method, or a column inversion method, adjacent pixels in the same row are driven by voltages with opposite polarities. That is, pixels connected to lines DL1, DL2, DL3, and DL4 respectively have polarities such as "+""-""+""-" or "-""+""-""+". Therefore, the third operational amplifier circuit 80 uses switches S2 connected to adjacent operational amplifiers that have the same polarity for averaging above-mentioned offsets when corresponding pixels with the same polarity are driven to the identical gray level. For example, if the pixels connected to the data lines DL1, and DL3 are going to have the same gray level, the switches S1 corresponding to operational amplifiers 72, and 74 are first turned on in the beginning. Because the offsets related to the operational amplifiers 72, and 74 are different, the voltages at the data lines DL1, and DL3 are different as well. Then, the switch S2 related to the lines DL1, and DL3 is turned on <u>by a detecting circuit 81. That is, the detecting circuit 81 controls an on/off status of each switch S_2 according to digital or analog driving data with regard to two pixels coupled to the switch S_2</u>. Therefore, the voltage deviation between the lines DL1, and DL3 is eliminated by averaging the offsets generated by the corresponding operational amplifiers 72, and 74. It is noteworthy that the offsets generated from the operational amplifiers 72, and 74 are averaged to generate an average voltage at both lines DL1, and DL3. In other words, the lines DL1, and DL3 still have an averaged offset according to the present invention. But, the voltages at data lines DL1, and DL3 are equal after all. In addition, if two adjacent pixels are not going to have the same gray level, the switch S2 related to the corresponding pixels is kept off without affecting the gray levels of the adjacent pixels. In the preferred embodiment, the switch S2 is connected to two data lines driven according to the same polarity, and these two data lines is spaced by another data line driven according to an opposite polarity. That is, the third operational amplifier circuit 80 is applied on an LCD panel driven by a column inversion method, a dot inversion method, or a two dot line inversion. In addition, the different offsets are not averaged through the voltage selection module 56 shown in Fig.3 but are averaged

through the related switch S2. Therefore, any voltage divider circuit that can provide the operational amplifier circuit 70 with different voltage levels is suitable for the first driving circuit 16 in the preferred embodiment.